conventional power-handling SCR **28** is connected in tandem with SCR **11** of the basic AC momentary switching circuit shown in FIG. 2. In this form of the invention the essentially resistive load **29** is connected in series circuit with the AC power source **18**, and the cascaded SCR's **11** and **28**. The cathode gate **33** is connected to the cathode **14** of SCR **11** at junction **34** and a cathode load resistor **17'** is connected between junction **34** and ground. Cathode load resistor **17'** is comparable to the load previously indicated at **17** and it is to be understood that the previous load **17** in FIGS. 2–5 can be connected in the cathode circuit rather than the anode circuit, as shown. A charging capacitor **35** is connected between gate terminal **33** and ground.

When the power SCR **28** is OFF its cathode gate **33** is at a high resistance. When SCR **11** is triggered to the ON state in response to a touch activation of antenna **2** by the human body the voltage across resistor **17'** appears across cathode gate electrode **33** of the power SCR causing capacitor **35** to charge and power SCR **28** to switch to the ON state to energize load **29** with the power source **18**. The gate impedance of SCR **28** becomes very low when it turns ON and the charge on capacitor **35** continues to drive gate **33** to sustain SCR ON for a longer period, that is for at least half-wave duration. The succeeding negative half cycle of AC source **18** turns SCR **28** and SCR **11** to the OFF state, after the operator's finger is removed from element **2**. Thus, a half-wave momentary switch operation is obtained in a higher power range, at a reasonable cost. When power source **18** is a full-wave rectified source or a D.C. source as shown at **26** in the circuit of FIG. 5, this circuit then functions as a latching circuit similar to the operation described in connection with FIG. 5, and when SCR's **11** and **28** are switched to the ON state through the touch of the operator's finger, they remain latched on in the ON state until the circuit to the power source is interrupted. When the source is full rectified AC power then capacitor **35** must be sufficiently large such that its charge holds on SCR **28** past the zero voltage point of the AC power.

If the size of the capacitor **35** is increased we can obtain three-quarter wave momentary operation of the circuit, but there is a practical limit, for if the capacitance is made too large SCR **28** will remain in the ON state, all control being lost.

While the invention has been shown and described in certain preferred embodiments, it is realized that modifications can be made without departing from the spirit of the invention, and it is to be understood that no limitations upon the invention are intended other than those imposed by the scope of the appended claims.

What we claim as new and desire to secure by Letters Patent of the United States, is as follows:

1. A two-wire, solid state, touch responsive switch circuit comprising: semiconductor means having at least an anode electrode, a cathode electrode and a gate control terminal, said semiconductor having a gate sensitivity not exceeding 10 microamperes; a power source; an essentially resistive load having terminals connected in series circuit with said anode electrode, said cathode electrode and said power source; a capacitor and a resistor connected in electrical parallel forming a gate bias circuit connected at one end to said gate control terminal and at the other end to a bias source; the values of said capacitor and said resistor being chosen to preferentially reject the AC voltage present on a foreign body from an AC ambient source; and an electrically conductive touch response element disposed in spaced relation with said semiconductor means and said gate bias circuit; circuit means including a resistance connected between said electrically conductive touch response element and said gate terminal; said electrically conductive touch response element being responsive to the contact of a foreign body bearing a voltage from an AC ambient source to cause said semiconductor means to switch to the conductive state and energize said load.

2. A touch responsive switch circuit, as set forth in claim **1** in which said semiconductor means is a pnpn controlled rectifier.

3. A touch responsive switch circuit as set forth in claim **1**, including a second resistance and a second capacitor connected in a series circuit, and said series circuit connected across said anode electrode and said cathode electrode.

4. A touch responsive switch, as set forth in claim **1**, in which the value of said resistor is approximately 330K ohms and the value of said capacitor is approximately .01 microfarad.

5. A circuit as set forth in claim **1** in which said power source is an AC power source, and said gate control terminal is a cathode gate terminal and said semiconductor rectifier means produces positive half-wave rectified current across said load.

6. A circuit as set forth in claim **1** in which said source is an AC power source, and said gate control terminal is an anode gate terminal and said semiconductor rectifier means produces negative half-wave rectified current across said load.

7. A touch activated switch as set forth in claim **1** in which said power source is an AC power source, and said semiconductor means is connected to be returned to the nonconductive state on the succeeding cycle of said AC source, after removal of said foreign body from said touch response element to produce half-wave momentary switching action.

8. A touch activated switch as set forth in claim **1** in which said power source is a DC power source, and said semiconductor means is connected to remain in the conducting state due to said DC source after removal of said foreign body from said touch response element to produce latching action.

9. A circuit as set forth in claim **7** in which said power source is an AC power source, said circuit including second controlled semiconductor rectifier means including at least an anode electrode, a cathode electrode and a gate trigger terminal; said trigger terminal connected to said cathode electrode of said first-mentioned controlled semiconductor rectifier means; a second capacitor connected between the trigger terminal and cathode electrode of said second controlled semiconductor rectifier means and constituting a charge device means of sufficient capacity to maintain the second controlled semiconductor rectifier means in a conductive state to form a latching switch device; said anode electrode of said second controlled semiconductor rectifier means connected to the anode electrode of the first-named semiconductor means; and said cathode electrode of said second controlled semiconductor rectifier means connected to the side of said resistive load opposite the end connected to said cathode electrode of said first-mentioned semiconductor means, whereby said second controlled semiconductor rectifier means is switched to the conducting state when said first-mentioned semiconductor means is conductive to energize said load, and said first-mentioned semiconductor means and said second controlled semiconductor rectifier means connected to be switched to the nonconductive state by the succeeding cycle of said AC power source.

10. A circuit as set forth in claim **7** in which said power source is an AC power source, said circuit including a second controlled rectifier means having an anode electrode, a cathode electrode and a cathode gate terminal; said cathode gate terminal connected to said cathode electrode of said first-mentioned semiconductor means to switch said second controlled rectifier means to the conducting state when said first-mentioned semiconductor means is conducting; charging means connected between said gate control terminal and said cathode electrode of said second controlled rectifier means; said anode elec-